# computers & structures

An International Journal

**List of Contents and Author Index**

**Volume 53, 1994**

**PERGAMON**

# computers & structures

An International Journal



## editor-in-chief

**Prof. H. Liebowitz** c/o A.E.R.D.C.O.
P.O. Box 25736
Washington, DC 20007-8736, U.S.A.

## editorial advisory board

**Prof. E. R. Arantes e Oliveira**
Lisbon, Portugal

**Prof. H. Ashley**
Calif., U.S.A.

**Prof. S. N. Atluri**
Ga, U.S.A.

**Dr M. L. Baron**
N.Y., U.S.A.

**Prof. K. J. Bathe**
Mass., U.S.A.

**Prof. B. A. Boley**
N.Y., U.S.A.

**Prof. L. Broglio**
Rome, Italy

**Dr T. A. Cruse**
Tenn., U.S.A.

**Prof. S. J. Fenves**
Pa, U.S.A.

**Dr R. E. Fulton**
Ga, U.S.A

**Dr D. S. Griffin**
Pa, U.S.A.

**Dr M. C. Junger**
Mass., U.S.A.

**Dr Z. Knesl**
Brno, Czech Republic

**Prof. R. D. Logcher**
Mass., U.S.A.

**Dr R. H. MacNeal**
Calif., U.S.A.

**Prof. P. V. Marcal**
Calif., U.S.A.

**Prof. Ch. Massonnet**
Liège, Belgium

**Dr R. J. Melosh**
N.C., U.S.A.

**Prof. T. Moan**
Trondheim, Norway

**Prof. F. Niordson**
Lyngby, Denmark

**Prof. A. K. Noor**
Va, U.S.A.

**Prof. J. T. Oden**
Tx., U.S.A.

**Prof. K. A. V. Pandalai**
Madras, India

**Prof. T. H. H. Pian**
Mass., U.S.A.

**Dr G. G. Pope**
Hants, U.K.

**Prof. E. P. Popov**
Calif., U.S.A.

**Dr J. P. Raney**
Va, U.S.A.

**Prof. J. N. Reddy**
Va, U.S.A.

**Dr E. M. Q. Røren**
Oslo, Norway

**Prof. L. A. Schmit, Jr**
Calif., U.S.A.

**Prof. E. Sevin**
D.C., U.S.A.

**Dean A. Sherbourne**
Ontario, Canada

**Mr I. C. Taig**
Preston, U.K.

**Prof. B. H. V. Topping**
Edinburgh, U.K.

**Prof. T. G. Toridis**
D.C., U.S.A.

**Prof. F. Venancio-Filho**
Rio de Janeiro, Brazil

**Prof. Y. Yamada**
Tokyo, Japan

**Prof. O. C. Zienkiewicz**
Swansea, U.K.



Production Editor: Susan Li, Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

*Publishing, Subscription, and Advertising Offices*: Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A., or Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

**Published semi-monthly (four volumes 1994)**

**Annual subscription rates (1995)**
Annual Institutional Subscription Rates 1995: North, Central and South America, U.S.$2660; Rest of World, £1785. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Second class postage paid at Newark, NJ. Postmaster send address corrections to Computers & Structures, c/o Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.



Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Copyright © 1994 Elsevier Science Ltd



Cover design by Mr J. Koukos

# LIST OF CONTENTS

## NUMBER 1


| | | |
|---|---|---|
| **Shu Xiaoping** and **Sun Liangxin** | 1 | Thermomechanical buckling of laminated composite plates with higher-order transverse shear deformation |
| **B. Ghosh** and **J. N. Bandyopadhyay** | 9 | Bending analysis of conoidal shells with cut-outs |
| **D. C. Winfield** and **T. E. Tan** | 19 | Optimization of clubhead loft and swing elevation angles for maximum distance of a golf drive |
| **Xiaojian Liu** | 27 | On the stability of a Newmark's scheme-based predictor–corrector algorithm |
| **Zhou Ding** | 35 | Torsional vibration of uniform columns with arbitrarily shaped cross-sections partially submerged in water |
| **H. R. Dorfi** and **H. R. Busby** | 43 | An effective curved composite beam finite element based on the hybrid-mixed formulation |
| **C.-L. Liao** and **J.-S. Tsai** | 53 | Dynamic analysis of laminated composite plates subjected to transverse impact using a partial mixed 3-D finite element |
| **N. I. Ioakimidis** | 63 | Symbolic computations for the solution of inverse/design problems with Maple |
| **G. Singh,** **G. Venkateswara Rao** and **N. G. R. Iyengar** | 69 | Geometrically nonlinear flexural response characteristics of shear deformable unsymmetrically laminated plates |
| **S. Kitipornchai, Y. Xiang,** **K. M. Liew** and **M. K. Lim** | 83 | A global approach for vibration of thick trapezoidal plates |
| **M. Ristinmaa** | 93 | Consistent stiffness matrix in FE calculations of elasto-plastic bodies |
| **Chongbin Zhao** and **T. P. Xu** | 105 | Effects of backfill soils and incident wave types on seismic response of a reinforced retaining wall |
| **T. Krauthammer,** **H. M. Shanaa** and **A. Assadi** | 119 | Response of structural concrete elements to severe impulsive loads |
| **A. G. Razaqpur** and **H. G. Li** | 131 | Refined analysis of curved thin-walled multicell box girders |
| **W. Glabisz** | 143 | Application of Hamilton's law to the stability analysis of a double pendulum under nonconservative loads |
| **Xian-Xin Cai** | 155 | Free vibration of a thin rotating shell of revolution |
| **K. C. Biswal** and **A. K. Ghosh** | 161 | Finite element analysis for stiffened laminated plates using higher order shear deformation theory |




CAS 53/6—Q

**J. A. Figueiras** and **R. H. C. F. Póvoas** 173 Modelling of prestress in non-linear analysis of concrete structures

**W. F. Cofer** and **S. W. Kohut** 189 A general nonlocal microplane concrete material model for dynamic finite element analysis

**H. R. H. Kabir** 201 Static responses of anti-symmetric angle-ply laminated shear-flexible clamped plates

*Technical Notes*

**A. Joseph Stanley** and **N. Ganesan** 209 Impulse response of cantilever beams with thickness discontinuity subjected to a point load

**C. K. Soh** and **A. K. Soh** 219 IPDOS in retrospect: lessons for the next generation of structural engineering systems

*Announcements*

227 Call for papers: The Fourth International Conference on The Application of Artificial Intelligence to Civil and Structural Engineering

229 Call for papers: The Sixth International Conference on Civil and Structural Engineering Computing

231 Call for papers: The Third International Conference on Computational Structures Technology

I Software Survey Section

**NUMBER 2**

**R. Takagi, M. Maeda, K. Nakagawa** and **Duan Shrjin** 233 A proposal of a design technique for optimum section with average stresses throughout frame structures

**Huajiang Ouyang** and **Wanxie Zhong** 241 A finite strip method in Hamiltonian formulation

**T. V. R. Chowdary, S. Parthan** and **P. K. Sinha** 245 Finite element flutter analysis of laminated composite panels

**F. Genna** 253 An accurate numerical integration scheme for solving structural problems in the presence of a 'no tension' material

**Y. Y. Zhu** and **S. Cescotto** 275 Transient thermal and thermomechanical analysis by mixed FEM

**R. S. Bhatia** and **G. S. Sekhon** 305 A novel method of generating exact stiffness matrices for axisymmetric thin plate and shell elements with special reference to an annular plate element

**K. G. Xin, S. H. Bao** and **W. Y. Li** 319 A semi-discrete method for analysis of tube-in-tube structures

| | | |
|---|---|---|
| **J. Yuan, P. G. Young** and **S. M. Dickinson** | 327 | Natural frequencies of circular and annular plates with radial or circumferential cracks |
| **M. Ganapathi, T. K. Varadan** and **V. Balamurugan** | 335 | Dynamic instability of laminated composite curved panels using finite element method |
| **M. J. Alam** and **A. R. Santhakumar** | 343 | System reliability analysis of transmission line towers |
| **H. P. Lee** | 351 | Effect of gravity on the stability of a rotating cantilever beam in a vertical plane |
| **H. Liu, B. Dirr** and **K. Popp** | 357 | Comparison of some shell elements |
| **Suhuan Chen, Aijun Ma** and **Wanzhi Han** | 363 | Design sensitivity analysis of nonlinear mode spectrum for large amplitude forced vibrations of beams |
| **Jimin He** | 367 | Derivation of an accurate damping matrix of a dynamic structure using its FE model and measured FRF data |
| **C. Y. Huang** and **J. T. Oden** | 375 | GAMMA2D: a multiregion/multiblock, structured/unstructured grid generation package for computational mechanics |
| **Minghua Yu** and **Changwen Xu** | 411 | Multi-objective fuzzy optimization of structures based on generalized fuzzy decision-making |
| **A. E. Anuta, Jr** | 419 | The modal equations model of the simplified hydrogen atom |
| **T. Mizusawa** | 439 | Application of the spline element method to analyse the bending of skew plates |
| **S. P. C. Marques** and **G. J. Creus** | 449 | Geometrically nonlinear finite element analysis of viscoelastic composite materials under mechanical and hygrothermal loads |
| **H. Du, D. Hitchings** and **G. A. O. Davies** | 457 | Application of an aeroelasticity beam model for flexible multibody systems |
| | | *Technical Notes* |
| **G. V. Rao, N. R. Naidu** and **K. K. Raju** | 469 | Post-buckling of partially supported square plates subjected to thermal loading |
| **O. J. B. Almeida Pereira** and **J. P. B. Moitinho de Almeida** | 473 | Automatic drawing of stress trajectories in plane systems |
| | | *Announcements* |
| | 477 | Call for papers: The Fourth International Conference on The Application of Artificial Intelligence to Civil and Structural Engineering |
| | 479 | Call for papers: The Sixth International Conference on Civil and Structural Engineering Computing |

481 Call for papers: The Third International Conference on Computational Structures Technology

I Software Survey Section

NUMBER 3

**W. K. Chiu, P. D. Chalkley** and **R. Jones** 483 Effects of temperature on the shear stress–strain behaviour of structural adhesives (FM73)

**P. Fadum** and **K. S. Surana** 491 A least squares finite element formulation for plane elasto-statics based on *p*-version with applications to laminated composites

**A. W. Koilpillai** and **K. S. Surana** 509 *p*-Version least squares finite element formulation for axisymmetric incompressible Newtonian fluid flow

**D. Winterscheidt** and **K. S. Surana** 525 An alternative *p*-version least squares finite element 'boundary flux' approach for fluid dynamics problems

**J. H. Kweon** and **C. S. Hong** 541 An improved arc-length method for postbuckling analysis of composite cylindrical panels

**F. Cesari** 551 Simple programmes on thermoelastic analysis of composite laminate materials

**H. S. Kou, K. T. Lu** and **C. C. Yu** 569 Effective thermal conductivity of composite material with spherical inclusions in orthorhombic structure

**C. H. Sun, M. A. Bradford** and **R. I. Gilbert** 579 A reliable numerical method for simulating the post-failure behaviour of concrete frame structures

**T. A. Philpot, K. J. Fridley** and **D. V. Rosowsky** 591 Structural reliability analysis method for viscoelastic members

**G. D. Hahn** and **S. Sritharan** 601 Lateral response of underground pipelines to earthquakes

**H. A. S. Rasheed** and **K. S. Dinno** 613 An efficient nonlinear analysis of RC sections

**H. A. S. Rasheed** and **K. S. Dinno** 625 An improved nonlinear analysis of reinforced concrete frames

**F. Auricchio** and **R. L. Taylor** 637 A generalized visco-plasticity model and its algorithmic implementation

**Y. B. Sun, X. Q. He** and **Q. H. Qin** 649 A new procedure for the nonlinear analysis of Reissner plate by boundary element method

**S. B. Liu** and **C. L. Tan** 653 Boundary element contact mechanics analysis of pin-loaded lugs

| | | |
|---|---|---|
| **O. G. McGee, C. S. Huang** and **A. W. Leissa** | 667 | Influence of corner stress singularities and non-structural mass on the vibrations of cantilevered skewed trapezoidal plates |
| **O. G. McGee, W. D. Graves, T. S. Butalia** and **M. I. Owings** | 679 | Natural vibrations of shear deformable rhombic plates with clamped and free edge conditions |
| **Sung Chul Lee, Byung Man Kwak** and **Oh Kwan Kwon** | 695 | Analysis of incipient sliding contact by three-dimensional linear complementarity problem formulation |
| **M. Yener** and **K. Chompooming** | 709 | Numerical method of lines for analysis of vehicle–bridge dynamic interaction |
| **C. W. S. To** and **M. L. Liu** | 727 | Random responses of discretized beams and plates by the stochastic central difference method with time co-ordinate transformation |
| **S. Rahman** and **M. Grigoriu** | 739 | Local and global models for nonlinear dynamic analysis of multi-story shear buildings subject to earthquake loading |
| | | *Technical Notes* |
| **H. S. Yu** | 755 | A closed-form solution of stiffness matrix for Tresca and Mohr–Coulomb plasticity models |
| **S. Latha Nayar, K. Kanaka Raju** and **G. Venkateswara Rao** | 759 | Axisymmetric free vibrations of internally compressed moderately thick annular plates |
| | | *Announcements* |
| | 767 | Calls for papers: The Fourth International Conference on The Application of Artificial Intelligence to Civil and Structural Engineering; The Sixth International Conference on Civil and Structural Engineering Computing; The Third International Conference on Computational Structures Technology |
| | I | Software Survey Section |


**NUMBER 4**


| | | |
|---|---|---|
| **Jih-Hua Chin** and **Gwo-Tey Tseng** | 773 | Structural design under multioptimal consideration |
| **M. V. V. Murthy** | 787 | On improving the membrane capability of a four-noded quadrilateral element |
| **Yuan-Yao Qian** and **G. Dhatt** | 801 | A simple, adaptable 2D mesh generation package |
| **Wen Chen, Wen-Min Ren** and **Wei Zhang** | 811 | Buckling analysis of ring-stiffened cylindrical shells with cutouts by mixed method of finite strip and finite element |

| | | |
|---|---|---|
| **R. Buczkowski, M. Kleiber** and **U. Gabbert** | 817 | On linear and higher order standard finite elements for 3D-nonlinear contact problem |
| **P. Fuschi, M. Dutko, D. Perić** and **D. R. J. Owen** | 825 | On numerical integration of the five-parameter model for concrete |
| **G. E. Blandford** | 839 | Stability analysis of flexibly connected thin-walled space frames |
| **Chongbin Zhao, T. P. Xu** and **S. Valliappan** | 849 | Numerical modelling of mass transport problems in porous media: a review |
| **Zhiming Ye** | 861 | Dynamics of ships side launching |
| **F. Gordaninejad** and **S. Vaidyaraman** | 867 | Active and passive control of a revolute-prismatic flexible composite-material robot arm |
| **P. F. Pai** and **A. H. Nayfeh** | 877 | A new method for the modeling of geometric nonlinearities in structures |
| **P. R. Bose** and **T. K. Datta** | 897 | Lateral–torsional motion of tall buildings to along-wind forces |
| **X. D. Li** and **N.-E. Wiberg** | 907 | *A posteriori* error estimate by element patch post-processing, adaptive analysis in energy and $L_2$ norms |
| **R. Eymard** | 921 | Allowing for the creep of concrete in a finite-element structural calculation |
| **X. L. Guan** and **R. E. Melchers** | 929 | An efficient formulation for limit state function gradient calculation |
| **Y. S. Tarng** and **T. S. Hwang** | 937 | An investigation of the specific cutting force and its direction factors in turning |
| **Zone-Ching Lin** and **Don-Tsun Lin** | 947 | Dynamic deflection analysis of a planar robot |
| **Jong-Shyong Wu** and **Jye-Ming Chen** | 961 | Dynamic analysis of spatial beam-like lattice girders |
| **C. C. Baniotopoulos, K. M. Abdalla** and **P. D. Panagiotopoulos** | 983 | A variational inequality and quadratic programming approach to the separation problem of steel bolted brackets |
| **R. M. Lin, M. K. Lim** and **H. Du** | 993 | Deflection of plates with nonlinear boundary supports using generalized differential quadrature |
| **Qi Zhao Hui, Wang Bin** and **Feng Guan Min** | 1001 | A new approach to formulation of the governing equations of constrained multibody systems |
| **C. J. Younis** and **D. A. Sotiropoulos** | 1007 | A parametric study of bi-material bond response to wave excitation |

**Zhuhai Lin** and **M. Raoof** 1015 Isoparametric finite strip element

*Technical Notes*

**L. K. Seah** and **K. T. Ooi** 1023 Computer-aided design of an artillery system

**M. W. Fahmy** and **A. H. Namini** 1033 A survey of parallel nonlinear dynamic analysis methodologies

*Announcement*

1045 Call for papers: The Third International Conference on Computational Structures Technology

I Software Survey Section

NUMBER 5

**T. Chyzy, L. Krasuski, Cz. Miedzialowski** and **R. Tribillo** 1047 Finite element generation in boundary areas in plane problems of theory of elasticity

**Jingming Ma** and **Meifeng Le** 1053 A simple model of couple-stress theory for fiber-reinforced composites—I. Theoretical formulas

**Jingming Ma** 1059 A simple model of couple-stress theory for fiber-reinforced composites—II. Numerical analyses

**Lai Yuanming** and **Wu Yaping** 1067 Linear and nonlinear analysis of a simply-supported combined parabolical cylinder roof

**D. Rubinstein, N. Galili** and **A. Libai** 1073 Fully inverse dynamics of very flexible beam using a finite element approach and Lagrange formulation

**Li Qiusheng, Cao Hong** and **Li Guiqing** 1085 Stability analysis of a bar with multi-segments of varying cross-section

**Jeong Seo Koo** and **Byung Man Kwak** 1091 A laminated composite beam element separately interpolated for the bending and shearing deflections without increase in nodal DOF

**H. C. Chan, Y. K. Cheung** and **Y. P. Huang** 1099 Nonlinear modelling of reinforced concrete structures

**H. C. Chen** 1109 Efficient vibration analysis of general structural systems

**Deng Zichen** 1115 The optimal solution of the constrained nonlinear control system

**L. Jiang** and **M. W. Chernuka** 1123 A simple four-noded corotational shell element for arbitrarily large rotations

**R. Levy** 1133 Optimal design of trusses for overall stability

**R. Levy** 1139 Optimization for buckling with exact geometries

| | | |
|---|---|---|
| **S. K. Sharan** | 1145 | Finite element analysis of infinite solids using elastic supports |
| **P. A. F. Martins, J. C. P. Marmelo, J. M. C. Rodrigues** and **M. J. M. Barata Marques** | 1153 | PLARMSH3—a three-dimensional program for remeshing in metal forming |
| **N. Bonora, M. Costanzi** and **M. Marchetti** | 1167 | A computational procedure to calculate stress–strain field around simple shape holes in composite laminates |
| **B. Cochelin** | 1181 | A path-following technique via an asymptotic–numerical method |
| **M. R. Prabhu** and **R. Dhanaraj** | 1193 | Thermal buckling of laminated composite plates |
| **T. Mizusawa, H. Kito** and **T. Kajita** | 1205 | Vibration of annular sector Mindlin plates by the spline strip method |
| **G. A. Mohr** | 1217 | Finite element optimization of structures—I |
| **G. A. Mohr** | 1221 | Finite element optimization of structures—II |
| **M. A. Al-A'ali** and **M. A. Ajiz** | 1225 | Efficient algorithm for linear problems using packed data structure with a set of parallel pointers |
| **S. E. Chidiac, F. A. Mirza** and **D. S. Wilkinson** | 1235 | A simplified welding arc model by the finite element method |
| | | *Technical Notes* |
| **C. C. Baniotopoulos** | 1243 | On the discrete optimal control problem of composite wall structures |
| **P. Shamsedin** | 1247 | Flexible hierarchical information structure for early stage girder bridge design |
| | | *Announcement* |
| | 1255 | Call for papers: The Third International Conference on Computational Structures Technology |
| | I | Software Survey Section |


**NUMBER 6**


| | | |
|---|---|---|
| **Huiyu Xue** | 1257 | A combined dynamic finite element–Riccati transfer matrix method for solving non-linear eigenproblems of vibrations |
| **P. K. Gotsis** and **J. D. Guptill** | 1263 | Fiber composite thin shells subjected to thermal buckling loads |
| **M. M. El-Hawary** | 1275 | Effect of horizontal diaphragm flexibility on the *P*–delta analysis |

| | | |
|---|---|---|
| **Wei-Jer Wang** and **Kuanchung Lin** | 1281 | Free vibration of laminated plates using a finite strip method based on a higher-order plate theory |
| **R. Cerioni** and **G. Donida** | 1291 | A finite element model for the nonlinear analysis of reinforced and prestressed masonry walls |
| **Y. Toi, K. Kobashi** and **T. Iezawa** | 1307 | Finite element analysis of thermal elasto-plastic behaviours of bridge girders in hot-dip galvanization |
| **Mallikarjuna** and **P. Mahadevappa** | 1317 | Computer-aided analysis of reinforced concrete columns subjected to axial compression and bending. Part II: T-shaped sections |
| **Haengsoo Lee, Dong-Won Jung, Jin-Ho Jeong** and **Seyoung Im** | 1357 | Finite element analysis of lateral buckling for beam structures |
| **G. Karami** and **S. Ghazanfari Oskooei** | 1373 | A thermoelastic analysis of shrink-fit type constructions by boundary element method |
| **J. E. Abdalla** and **J. O. Dow** | 1381 | An error analysis approach for laminated composite plate finite element models |
| **Jiang Qian, Wenda Lu** and **Zhiyuan Weng** | 1389 | A comparative study of the cable-stayed bridge with unilateral supports |
| **G. M. Barsan** | 1395 | Optimal design of planar frames based on structural performance criteria |
| **I. Elishakoff, R. T. Haftka** and **J. Fang** | 1401 | Structural design under bounded uncertainty—optimization with anti-optimization |
| **M. V. Reddy, R. V. Grandhi** and **D. A. Hopkins** | 1407 | Reliability based structural optimization: a simplified safety index approach |
| **H. R. H. Kabir** and **J. B. Kennedy** | 1419 | Analysis of moderately-thick and deep shells subjected to thermal and mechanical loadings |
| **Z. Cai, G. P. Raymond** and **R. J. Bathurst** | 1427 | Natural vibration analysis of rail track as a system of elastically coupled beam structures on Winkler foundation |
| **S. M. Arnold, A. F. Saleeb, H. Q. Tan** and **Y. Zhang** | 1437 | Explicit robust schemes for implementation of general principal value-based constitutive models |
| **O. K. Bedair** and **A. Sherbourne** | 1453 | On the stability of plates under combined compression and in-plane bending |
| **Hua Zhao** | 1465 | Analysis of the load distribution in a bolt–nut connector |
| **V. D. Chuban** and **A. B. Kudryashov** | 1473 | 'Integral' finite elements for designing the strong frames of highly maneuverable airplanes |

*Technical Notes*

**Guo Chengxi** 1485 Some notes with regard to elastic mechanics

**Y. M. Xie** and **G. P. Steven** 1487 A simple approach to structural frequency optimization

**C. J. Brown** and **A. L. Yettram** 1493 Elastic stability of orthotropic plates using the conjugate load/displacement method

*Announcement*

1497 Call for papers: The Third International Conference on Computational Structures Technology

I Software Survey Section

i List of Contents and Author Index for Volume 53, 1994

# Author Index


Abdalla J. E., 1381
Abdalla K. M., 983
Aijun Ma, 363
Ajiz M. A., 1225
Al-A'ali M. A., 1225
Alam M. J., 343
de Almeida J. P. B. M., 473
Anuta A. E. Jr, 419
Arnold S. M., 1437
Assadi A., 119
Auricchio F., 637

Balamurugan V., 335
Bandyopadhyay J. N., 9
Baniotopoulos C. C., 983, 1243
Bao S. H., 319
Barata Marques M. J. M., 1153
Barsan G. M., 1395
Bathurst R. J., 1427
Bedair O. K., 1453
Bhatia R. S., 305
Biswal K. C., 161
Blandford G. E., 839
Bonora N., 1167
Bose P. R., 897
Bradford M. A., 579
Brown C. J., 1493
Buczkowski R., 817
Busby H. R., 43
Butalia T. S., 679

Cai Xian-Xin, 155
Cai Z., 1427
Cao Hong, 1085
Cerioni R., 1291
Cesari F., 551
Cescotto S., 275
Chalkley P. D., 483
Chan H. C., 1099
Chen H. C., 1109
Chen Jye-Ming, 961
Chen Suhuan, 363
Chen Wen, 811
Chernuka M. W., 1123
Cheung Y. K., 1099
Chidiac S. E., 1235
Chin Jih-Hua, 773
Chiu W. K., 483
Chompooming K., 709
Chowdary T. V. R., 245
Chuban V. D., 1473
Chyzy T., 1047
Cochelin B., 1181
Cofer W. F., 189
Costanzi M., 1167
Creus G. J., 449

Datta T. K., 897
Davies G. A. O., 457
Deng Zichen, 1115
Dhanaraj R., 1193
Dhatt G., 801
Dickinson S. M., 327
Ding Zhou, 35
Dinno K. S., 613, 625
Dirr B., 357
Dong-Won Jung, 1357
Donida G., 1291
Dorfi H. R., 43
Dow J. O., 1381
Du H., 457, 993
Dutko M., 825

El-Hawary M. M., 1275
Elishakoff I., 1401
Eymard R., 921

Fadum P., 491
Fahmy M. W., 1033
Fang J., 1401
Feng Guan Min, 1001
Figueiras J. A., 173
Fridley K. J., 591
Fuschi P., 825

Gabbert U., 817
Galili N., 1073
Ganapathi M., 335
Ganesan N., 209
Genna F., 253
Ghazanfari Oskooei S., 1373
Ghosh A. K., 161
Ghosh B., 9
Gilbert R. I., 579
Glabisz W., 143
Gordaninejad F., 867
Gotsis P. K., 1263
Grandhi R. V., 1407
Graves W. D., 679
Grigoriu M., 739
Guan X. L., 929
Guo Chengxi, 1485
Guptill J. D., 1263

Haengsoo Lee, 1357
Haftka R. T., 1401
Hahn G. D., 601
Han Wanzhi, 363
He X. Q., 649
Hitchings D., 457
Hong C. S., 541
Hopkins D. A., 1407
Huajiang Ouyang, 241
Huang C. S., 667
Huang C. Y., 375
Huang Y. P., 1099
Hwang T. S., 937

Iezawa T., 1307
Ioakimidis N. I., 63
Iyengar N. G. R., 69

Jeong Jin-Ho, 1357
Jiang L., 1123
Jimin He, 367
Jones R., 483

Kabir H. R. H., 201, 1419
Kajita T., 1205
Kanaka Raju K., 759
Karami G., 1373
Kennedy J. B., 1419
Kitipornchai S., 83
Kito H., 1205
Kleiber M., 817
Kobashi K., 1307
Kohut S. W., 189
Koilpillai A. W., 509
Koo Jeong Seo, 1091
Kou H. S., 569
Krasuski L., 1047
Krauthammer T., 119
Kudryashov A. B., 1473
Kwak Byung Man, 695, 1091
Kweon J. H., 541
Kwon Oh Kwan, 695

Lai Yuanming, 1067
Latha Nayar S., 759
Le Meifeng, 1053
Lee H. P., 351
Lee Sung Chul, 695
Leissa A. W., 667
Levy R., 1133, 1139
Li Guiqing, 1085
Li H. G., 131
Li Qiusheng, 1085
Li W. Y., 319
Li X. D., 907
Liao C.-L., 53
Libai A., 1073
Liew K. M., 83
Lim M. K., 83, 993
Lin Don-Tsun, 947
Lin Kuanchung, 1281
Lin R. M., 993
Lin Zhuhai, 1015
Lin Zone-Ching, 947
Liu H., 357
Liu M. L., 727
Liu S. B., 653
Liu Xiaojian, 27
Lu K. T., 569
Lu Wenda, 1389

Ma Jingming, 1053, 1059
Maeda M., 233
Mahadevappa P., 1317
Mallikarjuna, 1317
Marchetti M., 1167
Marmelo J. C. P., 1153
Marques S. P. C., 449
Martins P. A. F., 1153
McGee O. G., 667, 679
Melchers R. E., 929
Miedzialowski Cz., 1047
Mirza F. A., 1235
Mizusawa T., 1205, 439
Mohr G. A., 1217, 1221
Murthy M. V. V., 787

Naidu N. R., 469
Nakagawa K., 233
Namini A. H., 1033
Nayfeh A. H., 877

Oden J. T., 375
Ooi K. T., 1023
Owen D. R. J., 825
Owings M. I., 679

Pai P. F., 877
Panagiotopoulos P. D., 983
Parthan S., 245
Pereira O. J. B. A., 473
Perić D., 825
Philpot T. A., 591
Popp K., 357
Póvoas R. H. C. F., 173
Prabhu M. R., 1193

Qi Zhao Hui, 1001
Qian Jiang, 1389
Qian Yuan-Yao, 801
Qin Q. H., 649

Rahman S., 739
Raju K. K., 469
Rao G. V., 69, 469
Raoof M., 1015
Rasheed H. A. S., 613, 625
Raymond G. P., 1427
Razaqpur A. G., 131
Reddy M. V., 1407
Ren Wen-Min, 811
Ristinmaa M., 93
Rodrigues J. M. C., 1153
Rosowsky D. V., 591
Rubinstein D., 1073

Saleeb A. F., 1437
Santhakumar A. R., 343
Seah L. K., 1023
Sekhon G. S., 305
Seyoung Im, 1357
Shamsedin P., 1247
Shanaa H. M., 119
Sharan S. K., 1145
Sherbourne A., 1453
Shrjin D., 233
Shu Xiaoping, 1
Singh G., 69
Sinha P. K., 245
Soh A. K., 219
Soh C. K., 219
Sotiropoulos D. A., 1007
Sritharan S., 601
Stanley A. J., 209
Steven G. P., 1487
Sun C. H., 579
Sun Liangxin, 1
Sun Y. B., 649
Surana K. S., 491, 509, 525

Takagi R., 233
Tan C. L., 653
Tan H. Q., 1437
Tan T. E., 19
Tarng Y. S., 937
Taylor R. L., 637
To C. W. S., 727
Toi Y., 1307
Tribillo R., 1047
Tsai J.-S., 53
Tseng Gwo-Tey, 773

Vaidyaraman S., 867
Valliappan S., 849
Varadan T. K., 335
Venkateswara Rao G., 759

Wang Bin, 1001
Wang Wei-Jer, 1281
Weng Zhiyuan, 1389
Wiberg N.-E., 907
Wilkinson D. S., 1235
Winfield D. C., 19
Winterscheidt D., 525
Wu Jong-Shyong, 961
Wu Yaping, 1067

Xiang Y., 83
Xie Y. M., 1487
Xin K. G., 319
Xu Changwen, 411
Xu T. P., 105, 849
Xue Huiyu, 1257

Ye Zhiming, 861
Yener M., 709
Yettram A. L., 1493
Young P. G., 327
Younis C. J., 1007
Yu C. C., 569
Yu H. S., 755
Yu Minghua, 411
Yuan J., 327

Zhang Wei, 811
Zhang Y., 1437
Zhao Chongbin, 105, 849
Zhao Hua, 1465
Zhong Wenxie, 241
Zhu Y. Y., 275

*Printed in Great Britain by BPC Wheatons Ltd, Exeter*